The Problems With Lawns

Take a moment to think about the constraints we put on lawns.

- **A lawn plant must be short**; Between 1-4 inches tall. If it grows taller, it must be tolerant of regular mowing to that height.
- **It probably needs to be durable**. A lawn used for recreation needs to tolerate a great deal of foot traffic. Kids, dogs, adult yoga; lawn plants handle it better than any other.
- **It also must be aesthetically pleasing**. Many people want a green lawn for as long as possible and water their lawns constantly to achieve this.

Very few plants manage to meet these all of these criteria.

1. The Problems

Lawns create several big problems at scale:

1. Reduced biodiversity and habitat loss is perhaps one of the greatest issues that lawns create. Because lawns are the default option in so many areas, native plant species are reduced to a fraction of the space they once occupied.
2. Herbicides and insecticides used on lawns kill insects and are directly contributing to the massive reduction of insect populations.
3. The resources used on lawns are significant. In many areas of the world, these practices are entirely unsustainable. Drinkable water is used to grow lawns in the desert. Fertilizer is used on lawns to keep it green while runoff from that fertilizer contributes to algae blooms downriver. Gas used to run lawn mowers to cut lawns directly contributes to greenhouse gas emissions.

Lawns don't cause these problems in a vacuum, but the scale makes the problems significant. We have approximately 49,000 square miles of lawn in the U.S.; if you put it all together, it would be a little larger than the state of Mississippi.

2. Lawn Reduction

Reducing lawn space is the first thing we suggest people consider (this is r/nolawns after all). While there are some changes you can make to a lawn to reduce the impact it has on the environment, lawn reduction is usually easier, cheaper, and *much* more beneficial to your local ecosystem.

2.1 Ecosystem Benefits

The National Wildlife Federation has put together some great data on the most beneficial plant species in each Eco-region. Regardless of which region you're in, the majority of the plants listed here are going to be much larger than what can grow in a lawn environment. For example, our native sunflowers (*Helianthus* spp.) get very tall, often between 5-12 ft! These plants support numerous

species of pollinators and butterflies coast to coast. Not all keystone species are large, but almost all will be bigger than what will fit under your mower blades.

Note that the NWF uses the number of pollinator and larval host insect species as a metric. This is really important to understand; insects are at the bottom of the food chain. The Audubon Society has a great article here explaining the relationship between native plants, native insects, and native song birds. From the article:

> With 96 percent of all terrestrial bird species in North America feeding insects to their young, planting insect-proof exotic plants is like serving up plastic food. No insects? No birds.

If you're interested in the “Why? How come some plants do this while others don't?” topic, checkout Doug Tallamy's *The Nature of Oaks*.

2.2 Cost and Ease

Lawn *alternatives* can get very expensive due to the quantity of seed / plants that are typically needed to fill a space. There are a few reasons for this:

- **Economies of scale**: Turf grasses are grown in large commercial operations that have been around for decades. They sell seed at a volume that dwarfs many of the other non-turf grass alternatives. In comparison, these alternative markets are niche.
- **Reseeding:** Seeding is less likely to happen in a lawn setting. Most lawn grasses are mown down before reaching the height necessary for them to seed. This is equally true for many lawn alternatives.
- **Size**: Lawn plants, by definition, are short or kept short. That means you generally need more of them to fill a space. While a single bunch-type grass like Big Bluestem might take up a 3'x3' space, many more individual plants are needed to fill the same space with Kentucky Bluegrass.

Below are some common lawn alternative options and an estimate of the associated costs, using my yard as an example. My yard is around 8000 ft^2 (0.1837 acres or ~6689 m^3).

Annual Rye Grass:

- 35 lbs/acre
- $70 for a 50 lb bag
- $9 to seed the yard once

White Clover (heavy overseed):

- 10 lbs/acre
- $45 for a 5 lb bag
- $16.53 to seed the yard once
- Note that this assumes a turf grass lawn is already established and that the clover is supplementing the existing grass. Monoculture clover lawns can work well in some areas, but it is often discouraged in areas with freezing winter temperatures.

Native Turf (Ames Guide):

- 44 lbs/acre
- $15 for a 1lb bag of Side Oats Grama

- $121.15 to seed the yard once

Eco-grass / no mow blend:

- 220 lbs/acre
- $6 per lb under 49 lbs
- $242.42 to seed the yard once

I show this not to discourage you from planting a no-mow lawn, but simply to illustrate the upfront costs. This also doesn't take into account any savings you might get if you live in an area where you need to water your lawn (I do not). And it doesn't take into account any site prep if you already have a lawn of some kind. In areas with tenacious turf grasses like Bermuda, site prep can be a substantial amount of work.

But comparing these options to larger natives, the cost/benefit ratio is pretty compelling:

Trees/shrubs by seed:

- Many trees will costs next to nothing initially; just go find some seeds. Public parks are a great place to go tree shopping. You often find beautiful mature trees and the seeds from them in the fall or spring.Example: This fall, I collected dozens of Burr oak acorns from a local park and I intend to give these saplings away to neighbors who have lost Ash trees to the EAB.
- As the tree gets older, the shade will mean you mow less, and your A/C bills are lower.
- The trickiest part about collecting tree seeds is just knowing what you've found. Plant ID apps like iNaturalist are a great resource, but don't hesitate to ask here on r/nolawns, r/NativePlantGardening, or r/Whatsthisplant.

Trees/shrubs bare root:

- Some native trees and shrubs won't be easily found in your area, or are tricky to grow from seed. For these species, bare root saplings can be a great choice. Bare root saplings are usually less than 1 year old and will arrive dormant, without soil.
- Because they are sold very small and without soil, they are usually much cheaper than potted plants traditionally sold in a nursery.
- The Iowa DNR sells native bare root trees and bushes for ~$1/ per plan, in sets of 25. This is one of the best deals I've seen for bare root trees, but even many commercial nurseries will sell bare root plants under $10 per plant. Compared to the $30-$50 you might pay for a potted plant, these are a great deal.Example: I've planted Chokeberries, Serviceberries, American plums, and Arrowwood Viburnums throughout my yard. These plants provide a ton of benefits: privacy, wind break, fruit (eventually), and they take up lawn space that I no longer need to mow.

Wildflowers:

- One big benefit that wildflowers have is that many flowers will produce seeds prolifically.Example: This is just an example of one wildflower I have in my yard. I bought a 1 oz packet of Grey-headed Coneflower seed in the fall of 2020 for $15. I spread it over an area that is ~23'x4'. By the summer of 2022, I had *hundreds* of flowers. The seeds from those flowers could have easily been used to create more wildflower areas in my yard. Instead, I collected enough seed heads to fill a 2 gallon bucket and used these to help reseed a low-quality prairie in a local park. The rest of the seed helped feed my local finch population.
- Many native wildflowers are either perennials (meaning they will come back year after year) or annuals that self seed easily. This means that you won't need to buy new seed or new plants

every year.

This is a rare situation where the right thing to do for the environment is also good for your wallet.